Interoperability in California

California Emergency Management Agency

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Secretary's Message: A New Approach to Interoperability

Welcome to the first edition of *Interoperability in California!* This quarterly newsletter is intended to provide California's emergency response community with news of communications interoperability initiatives within California and across the Nation.

Interoperable communications have long been a major challenge for public safety agencies across the Nation. With the ever-expanding landscape of radio equipment, it has become increasingly difficult to communicate across disciplines—law enforcement, fire, and emergency medical services—much less across local, state, and Federal agencies. However, communications equipment cannot be the only element held accountable for interoperability issues. The problem also stems from a lack of proper governance, processes, policies, training, and funding. This newsletter will educate practitioners on these issues as well as ongoing efforts and accomplishments as California moves toward its vision of a statewide seamlessly interoperable emergency communications "system of systems" by 2017.

The idea of interoperable emergency communications has been in the purview of California's emergency responders since the 1960s. However, the exorbitant costs associated with interoperable communications systems made it seem an insurmountable problem. Following the tragic events of September 11th and Hurricane Katrina, interoperability was thrown into the national spotlight where it quickly became a leading emergency response issue. State and local agencies took it upon themselves to resolve interoperability issues. In California, the California Emergency Management Agency took a lead role in improving communications across disciplines and jurisdictions through collaborative efforts with local, state, and Federal partners.

Despite recent efforts, interoperability remains a major hurdle faced by emergency response agencies nationwide. In an effort to help state and local agencies better tackle the issue, the U.S. Department of Homeland Security mandated all 56 states and territories develop Statewide Communication Interoperability Plans

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Communications Unit Leaders Vital to Emergency Response

In May 2009, Vice President Joe Biden visited Los Angeles, California, to announce $100 million in Federal stimulus funding being made available for low-income housing. Photographs from the event show the Vice President calmly discussing the Federal Recovery Act. What remains unseen is the tumult of action occurring behind the scenes. With such a dignitary walking the streets of south Los Angeles, California's emergency response community was on alert. The event was treated as a major all-hazards incident; as such, state and local agencies coordinated with Federal agencies to plan for all contingencies. Through extensive collaboration, organization, and communication the State ensured the trip occurred without incident.

During large-scale incidents such as this, organization is one of the most influential elements. As police officers, firefighters, and emergency medical technicians from multiple jurisdictions convene on a single location simultaneously, communications can become jumbled and systems overwhelmed. To further complicate matters, each jurisdiction often arrives on scene with a different agenda, a different communications system, and a different set of policies and procedures in play. Without a leader to take charge of the situation, confusion permeates the scene, and the victims suffer as a result.

While this scene is still prevalent throughout the United States, emergency response agencies are taking active measures to improve their incident communications. One of the key elements to functional on-site communications is the presence of a communications unit leader (COML). Responsible for

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(SCIPs) in 2007. A SCIP serves as the plan or roadmap for achieving statewide interoperability. The California SCIP (CalSCIP), which defines a strategy for improving interoperable communications throughout California, was developed through the combined efforts of the California Statewide Interoperability Executive Committee (CalSIEC) and Public Safety Radio Strategic Planning Committee (PSRSPC). The CalSCIP accurately reflects the complexity of the interoperable communications environment in our State as measured against all elements of the Interoperability Continuum: *governance, standard operating procedures, technology, training and exercises, and usage*. Each of these elements is necessary for successful statewide communications interoperability advancement.

The CalSCIP defines a robust mission and vision for statewide public safety communications interoperability in California; reflects the current status of local, regional, and state agency systems and challenges; and identifies key objectives and initiatives driving California toward integrated statewide communications interoperability. The CalSCIP also establishes a series of goals and initiatives intended to improve communications statewide. For the past two years, California's emergency response officials have worked tirelessly to implement these initiatives. This newsletter will highlight these efforts with a specific focus on the work of the CalSIEC and PSRSPC. Topics will cover all aspects of communications interoperability, including state and local projects, Federal tools, communications equipment, incident management techniques, and training opportunities. Ideally, this information will spur collaboration among neighboring agencies and inspire innovation in state and local interoperability projects. We hope this newsletter will serve as a valuable tool for California's emergency responders as they strive to achieve interoperability within their agency.

Mathew Bettenhausen
Acting Secretary
California Emergency Management Agency

NIST partners with BayRICS to test and evaluate ISSI Simulation Tool

The National Institute of Standards and Technology (NIST) has partnered with the Bay Area Regional Interoperable Communications System (BayRICS) in a multi-vendor collaboration verifying compliance of the Inter-RF Subsystem Interface (ISSI), the next Project 25 (P25) standard to be completed. The ISSI standard will allow connectivity between different communications systems from different agencies and manufacturers that support P25 systems to form a wide area network. Emergency responders with P25 subscriber radios will have the capability to roam from their home system onto a neighboring system, while retaining contact with their home dispatch center.

NIST is developing a simulation tool to model the behavior of the ISSI system in order to help users gain insights on how the ISSI interface works. The tool will help identify a multitude of configuration and parameter issues before, during and after deployment, thereby avoiding the need for procuring and setting up expensive test beds and demonstrations. A local team of communication experts, representing member agencies participating in BayRICS, have been selected and will be participating in the evaluation and testing of the ISSI Simulation Tool.

BayRICS, a Bay Area Urban Area Security Initiative (UASI) initiative, is a "system of systems" approach to solving the interoperable challenges faced by local emergency responders. BayRICS will utilize P25-standards-based technology for interoperable voice and data communications. Initially comprised of systems within the Bay Area counties, BayRICS ultimately plans to interconnect through the I-80 corridor and into the Sacramento Valley forming a larger, more robust interoperable communications network for emergency responders. Catastrophic events, such as a large earthquake in the Bay Area or failure of the levees in Sacramento, emphasize a need for coordinated interoperable communications planning and roaming between networks in the Bay Area and the Capitol Area.

BayRICS is an ideal project to test the ISSI simulation tool due to the concentration of vendor communications systems, multi-agency participants, and the overall "system of systems" approach being deployed throughout the Bay Area. Both the Bay Area UASI and NIST believe BayRICS will be the model for interoperable P25 public safety radio systems nationwide. The experience and knowledge that will be attained through this process will make California's local participants ISSI experts.

Founded in 1901, NIST is a non-regulatory Federal agency within the U.S. Department of Commerce. NIST's mission is to promote U.S. innovation and industrial competitiveness by advancing measurement science, standards, and technology in ways that enhance economic security and improve our quality of life.

The Northern California Bay Area UASI was created in January 2006, when the Federal Government consolidated the urban areas of San Francisco, Oakland and San Jose, along with the 10 Bay Area counties. Its jurisdiction encompasses 7 million people and over 100 incorporated cities.

Communications Unit Leaders Vital to Emergency Response (continued…)

managing a number of resources—both material and human—COMLs are the lynchpin in incident communications. COMLs develop plans for the use of emergency response communications equipment and facilities. They are also charged with managing the distribution of this equipment and organizing the installation and testing of the equipment.

As leader of the Communications Unit, a COML supervises Communications Technicians, Radio Operators, and the Incident Communications Center Manager; each of these individuals plays a major role in ensuring secure and seamless incident communications. The Communications Unit, as a whole, is responsible for integrating communications systems and ensuring all practitioners involved can speak to one another. When multiple disciplines and jurisdictions are involved in an incident response, the COML is especially important in helping to manage the relationships between these individuals. Essentially, COMLs manage communications so that the right people can talk to one another, when necessary and as authorized, without overwhelming the communications systems.

COMLs are recognized positions within the National Incident Management System's (NIMS) Incident Command System (ICS) structure. ICS is a standardized incident management approach that is applicable to all hazards. Launched in the 1970s, ICS was actually developed in response to California's wildfires. It was discovered that many emergency response problems, not only in California, but across the Nation, stemmed from a lack of proper management. Without the appropriate leadership, policies or procedures in place, incidents were subject to poor communications. Therefore, the Federal Government adopted the ICS, which aims to improve management during emergencies. COMLS are one of the many solutions ICS has created to address incident management issues. As NIMS ICS is required in all emergency response agencies, COMLs are becoming important commodities within each agency.

COML Pre-Requisite Requirements

The individual must possess fundamental public safety communications technology, supervisory, and personnel management skills. These skills include, but are not limited to knowledge of: local communications and communications systems; frequencies and spectrum; technologies; local topography; system site locations; local, state, and regional communications plans; local and regional Tactical Interoperable Communications Plans, if available; and communications and resource contacts.

The individual must also complete the following training courses:

- **IS-700** – Explains the purpose, principles, key components, and benefits of NIMS.
- **IS-800b** – Introduces participants to the National Response Framework.
- **ICS-100** – Describes ICS's history, features, principles, and organizational structure, and explains the relationship between ICS and NIMS.
- **ICS-200** – Provides training for personnel who will assume a supervisory position within ICS.
- **ICS-300** – Provides training for personnel who are required to implement the advanced application of ICS.

Designating a COML is not as easy as it seems. As leader of the Communications Unit, this individual is entrusted with an enormous responsibility. They must have an established background in public safety communications and extensive experience in field operations. This individual must also meet several requirements before qualifying for training (see COML Pre-Requisite Requirements box). If these requirements are met, individuals are eligible to complete a training course taught by a U.S. Department of Homeland Security (DHS)-approved COML instructor. To become a certified California COML, individuals must complete this training course as well as a Task Book provided during the course. To defer some of the associated training costs, the DHS Office of Emergency Communications is sponsoring All-Hazards Type III COML training courses across the Nation.

COMLs have been deemed a priority within California's emergency response community. As such, the California Emergency Management Agency's (CalEMA) has set an initial goal for each county to have at least two trained COMLs on staff. In areas with greater response needs, additional COMLs will be needed. In order to achieve this goal, CalEMA will use grant funding to administer **free** COML training throughout the State. Training courses will be available in each of the four California Statewide Interoperability Executive Committee (CalSIEC) Planning Areas: Northern, Southern, Central, and Capitol-Bay. If interested in attending these trainings, please contact the appropriate Planning Area or Michael Crews at Michael.Crews@oes.ca.gov.

As is evident in the growing number of COMLs and grant-sponsored trainings, California is making an active effort to improve incident management across the State. Experience has shown that multi-jurisdictional emergency incidents will continue to be challenging until the appropriate people, processes, and policies are implemented. The addition of COMLs will not only help resolve this issue, but will improve collaboration among neighboring agencies. Most importantly, COMLs will improve emergency response communications, which will result in lives saved. To learn more about training opportunities, visit http://www.ohs.ca.gov/hseep/TrainingHome.html.

PSRSPC Holds Quarterly Meeting

The Public Safety Radio Strategic Planning Committee (PSRSPC) held an executive meeting on August 11, 2009. Some of the key outcomes include:

- As one of the 19 California Statewide Interoperability Executive Committee (CalSIEC) members, the PSRSPC nominated and elected an official CalSIEC representative: the Department of Fish and Game's Steve Edinger. Alternate: CA Military Department, Col. Don Turos.
- Members agreed on a goal of inputting the data into CASM by December 31, 2009. In addition, the group agreed to the proposed initial naming conventions for data entry into CASM. The Technology Working Group will address additional naming conventions for common/shared sites to prevent duplicate entries into CASM. As California's statewide database, CASM allows emergency response agencies to consolidate modifications and upgrade efforts to radio communications systems and eliminate duplicate funding requests.
- There was agreement to support the development of a State agency database for remote sites that will interface with CASM.
- The PSRSPC held a meeting on July 13, 2009 to kick off efforts to develop a comprehensive 10-year public safety communications plan. The California Public Safety Communications Strategic Plan or CAPSCOM will identify opportunities for improving public safety communications on a statewide basis. Much of the supporting objectives of this project will include performing a detailed assessment of each agency's communications systems and evaluating opportunities for sharing systems as a means to minimize costs and enhance capabilities. More importantly, this Plan will develop a unified strategy for all agencies and help meet the State's future interoperability needs. Gartner, Inc. will be assisting with the development of the CAPSCOM and will deliver the report by May 2010.

Comprised of 14 representatives from State agencies and departments, the PSRSPC meets quarterly; the next meeting will be held on October 15, 2009 at Cal EMA Headquarters.

Bill to Extend PSIC Funds Enters Congress

On March 31, 2009, the House of Representatives introduced a new bill that, if passed, could significantly impact public safety communications across the Nation. Known as H.R. 1819, the bill asks Congress "to amend the Digital Television Transition and Public Safety Act of 2005 to extend the interoperable emergency communications grant program through fiscal year 2012." Since it was first introduced, the bill has been referred to the House Committee on Energy and Commerce where it is pending decision.

The grant program this bill refers to is commonly known as the Public Safety Interoperable Communications (PSIC) program; it is funded by the National Telecommunications and Information Administration within the U.S. Department of Commerce. PSIC is a nationally recognized program that awards grant funding to the 56 states and territories and targets projects that improve public safety communications during natural or man-made disasters. Specifically, the program helps emergency response agencies acquire, deploy, and train on interoperable communications systems that use reallocated radio spectrum in the 700 MHz band. In 2007, California received $94,034,510 in PSIC funds—nearly 10% of all funds allocated that year. In the past two years, the State has used this money to fund technology solutions that align with Federal guidelines and that support the California's system of systems approach.

In accordance with the Digital Television Transition and Public Safety Act of 2005, PSIC may distribute up to $1 billion to fund such projects through fiscal year 2010. By extending this deadline through fiscal year 2012, H.R. 1819 opens up the possibility for greater funding opportunities within California's emergency response community. Two additional years of funding can make a world of difference in a state such as California.

However, the bill will require greater support from the general community if it is to pass through Congress. Currently, there is only one sponsor for the bill—Representative Joseph Cao (LA-2). The National Emergency Management Association (NEMA) has written a strong letter of support for H.R. 1819, which will be sent to Congress in the near future. Representing emergency management directors from all 56 states and territories, NEMA provides leadership and guidance regarding emergency management (see http://www.nemaweb.org/home.aspx for more information). However, even with NEMA's endorsement, the bill will need further support from the emergency response community as a whole. To propel the bill to greater prominence within Congress and encourage faster passage, constituents may send letters to their respective House Representatives. For more information about how to contact California's House Representatives, visit http://www.house.gov/house/MemberWWW_by_State.shtml#ca.

CalSCIP Initiatives 101: A Guide to CASM, TICPs, and the IFOG

The California Emergency Management Agency (CalEMA) is making major strides in implementing the 2007 California Statewide Communications Plan's (CalSCIP) initiatives. These initiatives are categorized according to the five elements of the Interoperability Continuum: governance, standard operating procedures, technology, training and exercises, and usage. Each will contribute to the continual improvement of interoperable communications throughout the State of California. In support of these initiatives, CalEMA is currently leading the following efforts:

Statewide CASM Implementation

California's emergency response agencies are completing a statewide capabilities assessment through the use of the Communication Assets Survey and Mapping (CASM) tool. CASM serves as the statewide repository for information regarding public safety communications assets and methods of interoperability. The tool was developed by the U.S. Department of Defense to effectively analyze public safety communications equipment data, identify interoperability gaps in communications plans, and improve statewide and regional collaboration on solutions for improvement. The tool provides an online inventory and visual display of communications assets in a given region, identifies existing interoperability, and highlights gaps between emergency response agencies.

Statewide CASM Approach

The CASM database is a grassroots tool that allows agencies and Operational Areas (OAs) to gather and enter their interoperable communications asset information. This approach gives participants a solid understanding of the benefits of the CASM tool. Many agencies have already entered a significant amount of data into CASM while others are still in the process of doing so. Some agencies are using grant funding from the Interoperable Emergency Communication Grant Program to conduct their capabilities assessments, complete their CASM entries, and update their Tactical Interoperable Communications Plans (TICPs).

In support of this effort, CalEMA has brought on a team of consultants from SRA Touchstone Consulting Group, who previously assisted in the development of the CalSCIP. The Touchstone Team is currently working with State agencies and California Statewide Interoperability Executive Committee (CalSIEC) Planning Areas to help guide CASM data entry. To improve these efforts, the Team is developing CASM data entry action plans that will help agencies enter their data and fulfill the CASM completion goal.

CASM Guidance and Standards

CASM guidance and standards tools have been developed to provide clarity for agencies as they prepare and enter information in the database. Guidance resources for CASM entry include the following:

- CASM User Request/Account Application – Each CASM user must have an assigned login and password to gain access to the database; this application form will help users create an account.
- CASM How-to Guide – This guide is designed to assist California's CASM users in entering specific CASM components.
- Frequently Asked Questions – This document lists the most commonly asked questions pertaining to CASM data entry.
- CASM Tutorial – The DHS Interoperable Communications Technical Assistance Program (ICTAP) developed this tutorial for CASM data entry.
- CASM Data Collection Checklist – This check-list guides users in the collection of CASM data from agency representatives, including radio managers and frequency coordinators.

For the test pilot, CalEMA tested and evaluated these guidance documents and common practice tools. This summer and fall, each region will host a CASM training workshop, which will train state and local agencies to enter information into CASM. The first training session was held on July 13, 2009, for the Capital/Bay Area Planning Area. Additionally, online training offerings will be available through ICTAP.

TICP Guidance

CalEMA has encouraged all California OAs and State agencies to complete a TICP or to participate in a regional TICP. Completing a TICP, however, is not an easy task for a rural OA with limited staff, time, and resources. Fortunately, OAs and State agencies have multiple resources to aid them in completing the TICP. CASM can be used to assist with the development of several sections in the TICP, including Section 3 and Appendices B-E. TICP guidance and template tools are available for those who have not completed their TICPs or that need further assistance. In addition, the Touchstone Team will be available on-call to guide in TICP development.

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For more information on the statewide CASM or TICP processes, please contact Michael Crews at Michael.Crews@oes.ca.gov.

Interoperability Field Operations Guide

CalEMA will be coordinating the development of a statewide communications Interoperability Field Operations Guide (IFOG). The IFOG will be practitioner-driven, accurate, comprehensive, and useable. Key information will be compiled from existing information sources as well as from input provided by California's emergency response practitioners and officials. This information will result in the development of a guidebook that enables emergency responders to seamlessly access communications systems throughout the State.

Interoperable Communications Training Strategy

Drawing on the input of California's emergency response community, CalEMA is coordinating the development of a long-term strategy for a multi-discipline training program. Interviews will be conducted with representatives from CalEMA, the Public Safety Radio Strategic Planning Committee (PSRSPC), and the CalSIEC to identify what communications training and exercises currently exist in the State. This information will be used to develop a vision for the desired future state of training, identify training needs or gaps, and outline a framework for the training strategy. Once the training gaps have been identified and a baseline review is complete, a Training Working Group (TWG) will be formed, which will develop a principled approach to addressing training requirements. The TWG will ultimately develop a communications interoperability training strategy to be used throughout the State of California.

Technology Protocol Development

With the input of the PSRSPC's Technology Working Group and other subject matter experts, CalEMA will aid in the design of equipment training policies for various cache resources and telecommunications equipment, such as gateways. To this end, technical documents related to this equipment will be reviewed to create statewide standard operating procedures (SOPs) and protocols. These SOPs will be used in future trainings and exercises.

Spotlight: Michael Crews, Communications Interoperability Coordinator

Please welcome Michael Crews to the California Emergency Management Agency as our newest member to state services. Assigned to the Technology Operations Division T-Comm, Michael will serve as the Agency's Communications Interoperability Coordinator.

Michael has served in the U.S. Navy as a Communication Analyst on P3 reconnaissance aircraft and as a Naval Instructor. Michael has over 10 years of Communications and Information Technology management experience.

He has held a variety of technical and managerial positions, including his professional career as a consultant for Booz Allen Hamilton, Inc. As a consultant, Michael has worked with a variety of U.S. and foreign government agencies. He worked directly with Pacific Command Headquarters in Honolulu, Hawaii, where he managed and coordinated numerous projects involving mission readiness and crisis response for the Pacific region. Michael's experience includes information and knowledge management, systems design and analysis, process development, and technical training.

Michael is a graduate of Hawaii Pacific University and he holds a Masters of Business Administration and a Bachelors of Science in Business Management with a concentration in International Business. Michael is a member of the Project Management Institute and is currently working toward a Project Management Professional Certification. He may be contacted at Michael.Crews@oes.ca.gov.

Upcoming Events

August 27 (Downey)
CA Public Safety Radio Association Meeting

September 17 (Thousand Oaks)
CA Public Safety Radio Association BBQ

September 17 (Yolo County)
Northern CA APCO International Meeting

September 23
CalSIEC Southern Planning Area Meeting

September 24-25 (Phoenix)
NACo Interoperable Communications Policy Forum

October 15 (Cal EMA Headquarters)
CalSIEC/PSRSPC Joint Meeting

To subscribe to this newsletter, please contact Lindsey.Gill@touchstone.com.